

WHAT IS CLAIMED IS:

1 1. A transducer positioning apparatus comprising:
2 a frame;
3 a first carriage movably associated with the frame and having a guide
4 member;
5 a second carriage that is movable with respect to the guide member
6 between multiple positions relative to the guide member;
7 a transducer mounted on the second carriage;
8 an anti-rotation member associated with the second carriage for
9 inhibiting rotational movement of the second carriage as the second carriage moves
10 with respect to the guide member; and
11 an actuator associated with the second carriage, the actuator being
12 operative to move the second carriage with respect to the guide member to a selected
13 position of the multiple positions and to move the first carriage and the second
14 carriage relative to the frame to locate the transducer in a desired position.

1 2. The apparatus of claim 1 wherein the first carriage includes a first
2 carriage body, the guide member includes an elongated guide body fixed to the first
3 carriage body, and the second carriage is movable along the guide member between
4 the multiple positions.

1 3. The apparatus of claim 1 wherein the guide member is positioned
2 between the transducer and the anti-rotation member.

1 4. The apparatus of claim 1 wherein the anti-rotation member is
2 fixed to the second carriage.

1 5. The apparatus of claim 4 wherein the first carriage includes an
2 additional anti-rotation member that is slidable along the anti-rotation member.

1 6. The apparatus of claim 1 further comprising first and second
2 spring members that each have first and second ends attached to the frame, and
3 wherein the first carriage is suspended from the frame by the spring members.

1 7. The apparatus of claim 6 wherein each spring member comprises
2 a leaf spring.

1 8. The apparatus of claim 1 wherein the second carriage includes
2 first and second guide elements that are movable along an axis of the guide member,
3 and wherein a plane bisecting the transducer extends between the guide elements and
4 generally perpendicular to the axis.

1 9. The apparatus of claim 1 wherein the actuator includes an actuator
2 portion attached to the second carriage, and wherein the first carriage, second
3 carriage and actuator portion cooperate to at least partially define a suspended mass
4 having a center of mass that is generally axially aligned with the guide member.